AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-10. (Cancelled)

11. (Currently amended) A data storage medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of ~~substantially uniformly~~ spaced apart ferromagnetic particles, each particle having a largest dimension no greater than about 100 nm~~, and wherein each of said ferromagnetic particles has~~ and having been formed and [[is]] being at least partially encased within a cavity of an organic macromolecule having a wall of a predetermined thickness, and wherein the distance between adjacent particles substantially equals to about twice the thickness of the wall.

12. (Previously presented) The medium according to claim 11, wherein each of the ferromagnetic particles represents a separate ferromagnetic domain.

13. (Currently amended) The medium according to claim 11, wherein the distance between adjacent ferromagnetic particles is at least about 2 nm.

14. (Currently amended) The medium according to claim 11, wherein the distance between adjacent ferromagnetic particles is no greater than about 10 nm.

15. (Currently amended) A magnetic recording device, comprising a magnetic recording medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of ~~substantially uniformly~~ spaced apart ferromagnetic particles, each particle having a largest dimension no greater than about 100 nm, and a coating having a predetermined thickness surrounding each particle of said plurality of particles, the distance between adjacent particles being substantially equal to about twice the thickness of the coating.

16. (Previously presented) The device according to claim 15, wherein said coating is selected from the group consisting of micelles and surfactants.

17. (Currently amended) A magnetic recording device, comprising a magnetic recording medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of spaced apart ferromagnetic particles, each particle having a largest dimension no greater than about 100 nm, and wherein each of the ferromagnetic particles has been formed within a cavity of an organic macromolecule having a wall of a predetermined thickness, the distance between adjacent particles being substantially equal to about twice the thickness of the wall.

18. (Previously presented) The device according to claim 17, wherein each of the ferromagnetic particles represents a separate ferromagnetic domain.

19. (Currently amended) The device according to claim 17, wherein the distance between adjacent ferromagnetic particles is at least about 2 nm.

20. (Currently amended) The device according to claim 17, wherein the distance between adjacent ferromagnetic particles is no greater than about 10 nm.

21. (Cancelled)

22. (Currently amended) A method for creating a magnetizable layer comprising a plurality of spaced apart ferromagnetic particles, the method comprising the steps of:

forming a plurality of at least partially encased ferromagnetic particles within a respective plurality of organic macromolecules, each organic macromolecule having a wall of a predetermined thickness, each ferromagnetic particle having a largest dimension no greater than about 100 nm, and

depositing said plurality of ferromagnetic particles on a surface, wherein the distance between adjacent particles substantially equals to about twice the thickness of the wall.

23-24. (Cancelled)

25. (Previously presented) The data storage medium of claim 11, wherein the largest dimension of each particle of said plurality of ferromagnetic particles varies by no more than about 5%.

26. (Previously presented) The data storage medium of claim 11, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 50 nm.

27. (Previously presented) The data storage medium of claim 26, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 25 nm.

28. (Previously presented) The data storage medium of claim 11, wherein said cavity of said organic macromolecule is of a substantially uniform predetermined size and shape.

29. (Previously presented) The data storage medium of claim 11, wherein the ferromagnetic particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

30. (Previously presented) The data storage medium of claim 11, wherein the ferromagnetic particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese, molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

31. (Previously presented) The magnetic recording device of claim 15, wherein the largest dimension of each particle of said plurality of ferromagnetic particles varies by no more than about 5%.

32. (Previously presented) The magnetic recording device of claim 15, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 50 nm.

33. (Previously presented) The magnetic recording device of claim 32, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 25 nm.

34. (Previously presented) The magnetic recording device of claim 15, wherein the ferromagnetic particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

35. (Previously presented) The magnetic recording device of claim 15, wherein the ferromagnetic particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese, molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

36. (Previously presented) The magnetic recording device of claim 17, wherein the largest dimension of each particle of said plurality of ferromagnetic particles varies by no more than about 5%.

37. (Previously presented) The magnetic recording device of claim 17, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 50 nm.

38. (Previously presented) The magnetic recording device of claim 37, wherein the largest dimension of each particle of said plurality of ferromagnetic particles is no greater than about 25 nm.

39. (Previously presented) The magnetic recording device of claim 17, wherein said cavity of said organic macromolecule is of a substantially uniform predetermined size and shape

40. (Currently amended) The magnetic recording device of claim [[15]] 17, wherein the ferromagnetic particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

41. (Currently amended) The magnetic recording device of claim [[15]] 17, wherein the ferromagnetic particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese, molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

42. (Previously presented) The method of claim 22, wherein the largest dimension of each particle of said plurality of ferromagnetic particles varies by no more than about 5%.

43. (Previously presented) The method of claim 22, wherein the step of forming a plurality of ferromagnetic particles within a respective plurality of organic macromolecules comprises depositing metal films into tubular centers of a two-dimensional array of flagellar L-P rings.

44. (New) The magnetic recording device of claim 15, wherein said plurality of spaced apart ferromagnetic particles is formed by metal reduction in a presence of a microemulsion.

45. (New) A data storage medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of spaced apart ferromagnetizable particles, each particle having a largest dimension no greater than about 100 nm and having been formed and being at least partially encased within a cavity of an organic macromolecule having a wall of a predetermined thickness, and wherein the distance between adjacent particles substantially equals to about twice the thickness of the wall.

46. (New) The medium according to claim 45, wherein each of the ferromagnetizable particles represents a separate magnetizable domain.

47. (New) The data storage medium of claim 45, wherein the distance between adjacent ferromagnetizable particles is at least about 2 nm.

48. (New) The data storage medium of claim 45, wherein the distance between adjacent ferromagnetizable particles is no greater than about 10 nm.

49. (New) The data storage medium of claim 45, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles varies by no more than about 5%.

50. (New) The data storage medium of claim 45, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 50 nm.

51. (New) The data storage medium of claim 50, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 25 nm.

52. (New) The data storage medium of claim 45, wherein said cavity of said organic macromolecule is of a substantially uniform predetermined size and shape.

53. (New) The data storage medium of claim 45, wherein the ferromagnetizable particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

54. (New) The data storage medium of claim 45, wherein the ferromagnetizable particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese, molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

55. (New) A magnetic recording device, comprising a magnetic recording medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of spaced apart ferromagnetizable particles, each particle having a largest dimension no greater than about 100 nm, and a coating having a predetermined thickness surrounding each particle of said plurality of particles, the distance between adjacent particles being

substantially equal to about twice the thickness of the coating; and wherein said plurality of spaced apart ferromagnetizable particles is deposited on a surface.

56. (New) The device according to claim 55, wherein said coating is selected from the group consisting of micelles and surfactants.

57. (New) The magnetic recording device of claim 55, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles varies by no more than about 5%.

58. (New) The magnetic recording device of claim 55, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 50 nm.

59. (New) The magnetic recording device of claim 58, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 25 nm.

60. (New) The magnetic recording device of claim 55, wherein the ferromagnetizable particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

61. (New) The magnetic recording device of claim 55, wherein the ferromagnetizable particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese, molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

62. (New) The magnetic recording device of claim 55, wherein said plurality of spaced apart ferromagnetizable particles is formed by metal reduction in a presence of a microemulsion.

63. (New) A magnetic recording device, comprising a magnetic recording medium comprising a magnetizable layer, wherein said magnetizable layer comprises a plurality of spaced apart ferromagnetizable particles, each particle having a largest dimension no greater than about 100 nm and having been formed within a cavity of an organic

macromolecule having a wall of a predetermined thickness, the distance between adjacent particles being substantially equal to about twice the thickness of the wall; and wherein said plurality of spaced apart ferromagnetizable particles is deposited on a surface.

64. (New) The device according to claim 63, wherein each of the ferromagnetizable particles represents a separate magnetizable domain.

65. (New) The device according to claim 63, wherein the distance between adjacent ferromagnetizable particles is at least about 2 nm.

66. (New) The device according to claim 63, wherein the distance between adjacent ferromagnetizable particles is no greater than about 10 nm.

67. (New) The magnetic recording device of claim 63, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles varies by no more than about 5%.

68. (New) The magnetic recording device of claim 63, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 50 nm.

69. (New) The magnetic recording device of claim 68, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles is no greater than about 25 nm.

70. (New) The magnetic recording device of claim 63, wherein said cavity of said organic macromolecule is of a substantially uniform predetermined size and shape.

71. (New) The magnetic recording device of claim 63, wherein the ferromagnetizable particles are selected from the group of metals consisting of: cobalt, platinum, iron, and nickel.

72. (New) The magnetic recording device of claim 63, wherein the ferromagnetizable particles comprise an alloy of two or more metals selected from the group consisting of: aluminum, barium, bismuth, cerium, chromium, cobalt, copper, iron, manganese,

molybdenum, neodymium, nickel, niobium, platinum, praseodymium, samarium, strontium, titanium, vanadium, ytterbium, and yttrium.

73. (New) A method for creating a magnetizable layer comprising a plurality of spaced apart ferromagnetizable particles, the method comprising the steps of:

forming a plurality of at least partially encased ferromagnetizable particles within a respective plurality of organic macromolecules, each organic macromolecule having a wall of a predetermined thickness, each ferromagnetizable particle having a largest dimension no greater than about 100 nm, and

depositing said plurality of ferromagnetizable particles on a surface, wherein the distance between adjacent particles substantially equals to about twice the thickness of the wall.

74. (New) The method of claim 73, wherein the largest dimension of each particle of said plurality of ferromagnetizable particles varies by no more than about 5%.

75. (New) The method of claim 73, wherein the step of forming a plurality of ferromagnetizable particles within a respective plurality of organic macromolecules comprises depositing metal films into tubular centers of a two-dimensional array of flagellar L-P rings.